GEELONG NATURALIST

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COMING EVENTS

MAR 4 General Meeting: Swan Bay Catchment (see p. 1)
7-10 VFNCA Campout: Behind the Scenes—Melbourne (see February Magazine)
11 Plant Group: Workshop Meeting—Plants of the Otway Ranges (see p. 1)
16 Excursion: Swan Bay Catchment/Edwards Point-Leaders Diana Primrose & Steve Smithyman (see p. 1)
18 Bird Group: Bird Watching in Great Britain—Barry Lingham
20 Mid-Week Bird Group Excursion:TBA
23 Biodiversity Excursion*: Paddy Swamp (see p. 1)
25 Biodiversity Group: Workshop Meeting

APRIL 1 Annual General Meeting: Members Night (see p. 1)
8 Plant Group Workshop
15 Bird Group: Margaret Cameron—Bird Counts: What do we learn?
20 Mid-Week Bird Excursion: TBA
22 Biodiversity Group: Workshop Meeting
27 Excursion: Otways **(Note 4th Sunday)** Leaders: Joan Lindros, Trevor Pescott
29 Mammal Group

Note: (*) indicates changes, additions to the program

The Club Website & home page

GFNC Web page http://home.vicnet.au/~gfnc/

No email address: please use email addresses of committee members on the back page

Tonight's speaker ...

is from the Swan Bay Integrated Catchment Management Project for Coastal Conservation and Protection, which is a community driven project that combines action by community, government and industry to address environmental, land and waterway issues affecting Swan Bay and its catchment. Listed as a Ramsar site, Swan Bay values include a rich biodiversity including woodlands, saltmarsh and seagrass meadows. In 2001 the Management Committee won a Coastal Award For Excellence by a community group.

EXCURSION SWAN BAY CATCHMENT AREA
Sunday 16th March 2003

Leader: Diana Primrose (Phone 5250 1811)

8.45 am	Assemble at Clairvaux to arrange car pooling and sign attendance book.
9.00 am	Depart for Queenscliff Railway Station car park (those living on the peninsula go straight to Queenscliff)
9.30 am	Meet at the car park mentioned, sign attendance book if not already done so, and pool cars as much as possible. At the car park we meet the real leader of the day, Steve Smithyman, the Swan Bay Catchment Project Officer. Steve will show us various Swan Bay Catchment projects and areas of interest. Some of the things we are likely to see are revegetation projects, waterway and wetland protection, weed eradication, foreshore access if possible (through private property), Bellarine Basin at the top end of the catchment etc., etc. Bird life will be a big interest also. The project has been involved in habitat protection for the Hooded Plover and the OBP (Orange-bellied Parrot)! We will have lunch 'along the way'—so take it with you. The day is really in the hands of Steve who has kindly offered to be with us until 3.30 pm.
3.30 pm	Main part of excursion ends (most likely at Swan Bay jetty). Some people will need to be taken back to Queenscliff to pick up their cars, others may wish to take an extra walk along the foreshore at the jetty. Make your own way home as you wish.

Remember to bring all the usual things—sunscreen, hats, (?) insect repellent, (?) wet gear (I doubt it), walking boots/shoes, your lunch and drinks, binoculars, cameras, etc.
This excursion is a great opportunity to see the work being done at our very own Swan Bay! The Swan Bay Integrated Catchment Management Project does a lot of community education with the Peninsula population at local schools, displays in shopping centres etc.

NEXT MONTH is the Annual General Meeting and after the election of officers of the Club, Trevor Pescott will show his slides of the recent Eclipse of the sun, you will hear of changes that will be happening to the *Geelong Naturalist* and there will be a report on the VFNCA Campout to be held in Melbourne in March.

Biodiversity Excursion
Sunday 23rd March, 2003

This excursion is to the Paddy Swamp Road bushland, 38°21'S 143°59'E. Meet at the Green Grub nursery, Waurn Ponds Shopping Centre, at 8.30 am.

Take the Cape Otway Road to Wurdale Road, just west of Wurdeboluc Reservoir, turn left. Paddy Swamp Road runs south from the end of Wurdale Road to Bambra/Aireys Inlet Road

PLANT GROUP

Enlarged images of a few Jan Juc Coastal Reserve plants taken by Valda on her digital camera were a very helpful aid to discussion at our February meeting. Plants discussed included *Calocephalus brownii, Ptilotis macrocephalus, Chrysocephalum apiculatum, Ozothamnus ferrugineus, Xanthorrhoea minor* ssp. *Lutea.*

It was good to have Wim and Hani along, even for a short time, and we hope they are also able to attend in the future.

Next meeting: March 11 ***Plants of the Otway Ranges***

Dick Southcombe

In this Issue:

Several articles about shells, see pages 10, 13, 15.

More notices on pages 3, 12

Odd Spot

Did you know that in 1905 the Southern Wentletrap *Opalia australis* was adopted as the badge of the first Geelong Field Naturalists Club? Members were encouraged to drill a small hole in the centre of the shell, and with a piece of silk thread, fasten it to a button, and wear in the buttonhole. See *Geelong Naturalist*, vol. 34, no. 4, August 1998.

See page 12 for Committee Nomination form

OUT AND ABOUT

. . . Valda Dedman

I count myself lucky. While so much of the forest in southeast Australia was burning, I was in another great forest, in southwest Western Australia, a forest very different in character from the eastern forests. No real mountains (Mt Frankland is a mere 411 metres) and dry summers, even with an annual rainfall over 1400mm, mean there are no fern gullies or damp mossy dells and the streams are dark and peaty instead of sparkling, bubbling creeks.

I spent a few days in the Walpole-Nornalup National Park area and did the usual tourist things. I climbed half-way up (20 metres) the ladder on the Diamond Tree, a giant karri which used to serve as a fire lookout tower. I walked the 600 metre long Treetop Walk, suspended 38 metres above the ground, and along the Ancient Empire Trail, a boardwalk that weaves around and even through the burnt-out butts of the giant Tingle trees.

The Tingle Forest contains species unknown in the east, remnants from the time when Western Australia was part of Gondwana and joined to India and the climate was warm and continuously wet. Red Tingle *Eucalyptus. jacksonii* is the largest, growing up to 70 metres high, and is said to hold the Australian record for girth, with a circumference of up to 20 metres. (The Ada tree, northeast of Powelltown in Victoria, is a Mountain Ash 75 metres high and has a circumference of 15 metres at 1.5 m above the ground). Red Tingles develop wide buttresses, perhaps to help them stand erect in the deep sandy loam of the catchments of the Frankland, Deep and Bow Rivers, where they occur naturally. Their bark is rough and stringy, brown to grey in colour, and the timber is red. Yellow Tingles *E. guilfoylei* only grow half as tall with rough, crumbly bark and have no buttresses. Their timber is yellowish. Rate's Tingle *E. brevistylis* was only discovered in the mid 20th century. It has heart shaped young leaves, waxy leaf stalks and wrinkly gumnuts.

The Karri is a smooth-barked gum, and may get its specific name *diversicolor* from the lovely colours on the trunk as the bark peels, or from the fact that the upper leaf is differently coloured from the underside. I have read both explanations. Take your pick.

The forest understorey plants were new to me. The golden Tassel Flowers were just about finished. *Leucopogon verticillatus* has large grass-green leaves arranged in a star whorl around the stem. The triangular girders of the overhead walkway mimic their shape, and the pylons resemble the sword grass *Lepidosperma* sp. that grows around their base. *Chorilaena quercifolia* is a shrub with leaves resembling those of an English oak, but covered with minute hairs. Karri Sheoak, *Allocasuarina decussata* is a small tree with thick corky bark—perhaps serving as a fire-shield. I wonder what casuarinas, with mere leaf scales, are doing among eucalypt giants. The only creeper I saw was in bloom beneath karri trees, I think it was a *Sphenotoma.* It had large clusters of white five-petalled flowers.

I did not see the Tingle Spider, which was just as well, because it is huge, black and hairy. *Moggridgea tingle* is a rare and endangered species, related to some in Madagascar and Nigeria. All are Gondwanan remnants, like the trees. The Tingle Spider is a trapdoor spider, one of the migids, mygalomorphs whose fangs strike downwards into their prey. There is another Moggridgea species, equally rare, in the Stirling Range.

It was strange to see Kangaroo Paws in flower beside the road. I am used to them in the garden. And to find Red-flowering Gum in its natural (and restricted) habitat, at the edge of the heathland bordering the sea. These trees have been magnificent this year along the highway at Drysdale. In the wild they are the same reds and pinks, such an abundance of bright colour was unexpected. Flowering Gums are not eucalypts at all; they have been reclassifed as Corymbias, together with their close relative, the Marri *C. calophylla,* which is a much taller tree and also occurs at Walpole.

Both species have large and solid 'gumnuts'; the Flowering Gum's is globular, Marri's like a goblet with a rim. We found the latter on the ground with chewed edges—the cockatoos had been at work. These were the big Long-billed Black-tailed Cockatoos *Calyptorhynchus baudinnii*, that cried 'Maria Maria' early in the morning. They have specially adapted long-tipped bills for extracting seeds from the marri nuts. They also tore pine cones apart, just like their eastern cousins, the Yellow-tailed Black Cockatoos do here in Geelong.

Well before dawn the kookaburras woke us and each evening they would line up on the verandah rail for a handout. Kookaburras are not indigenous to Western Australia. They were introduced first in the 1890s by Le Soeuf, Director of the Perth Zoo.

There are two species of frog which are found only in the Walpole area. Five peaty swamps east of Mt Frankland are home to the Sunset Frog *Spicospina flammocaerulea.* It, like the Corroboree Frog (see p.3) of Mt Kosciusko, risks extinction through fire. There has not been a major bushfire in the Valley of the Giants since 1937. The Walpole Frog deposits its eggs in a jelly mass in moist soil. The eggs hatch but never go through the tadpole stage, developing into frogs without ever entering water. It looks like no other Australian frog. It has 'sunset' orange legs, hands, chest and throat, contrasting with a mottled blue and white belly.

I have some new pets, about twenty little furry creatures that keep me busy supplying enough food. They were originally found by a member of my U3A natural history class, as part of a five minute search for some fauna. (Other creatures found included two species of lerp, a lictor case moth, cockroaches, ants passing

messages (it did rain later), a dead blackbird and a small green mantid.

And my pets? They are gum-leaf skeletonizer caterpillars *Uraba lugens,* easy to identify because they carry their old head capsules piled one on top of the other like hats of decreasing size. You can tell how many times they have moulted by doing a quick count of their headgear. Apparently they can moult eleven times (six is normal for a moth caterpillar), so I may have to wait quite a while before my caterpillars pupate and later emerge as grey moths with black wavy bands across their forewings. I live in hope.

Why do they wear their old head skins? Is it to make them look bigger? Their bodies are covered with long pale hairs, which also helps to increase their apparent size. The hairs can cause skin irritation and may deter birds from eating them. The word caterpillar comes from the Old French *chat pelose*, meaning *hairy cat.*

My little 'kittens' started by being very systematic in their eating habits, staying in a row and munching their way up one side of a leaf, and then going to the other underside, till only a network of fine veins was left. I thought I had killed them when they stayed immobile before their first moult. Had I given them the wrong food, *Corymbia ficifolia,* which they took to so readily? Did they have enough air? They were still alive, but quite motionless. I varied their diet, picking fresh shoots from a variety of eucalypts. They only refused one, which may have a more waxy coating.

Right now they have four hats
Wait for the April instalment.

MISSING BOOK

Has anyone borrowed **Volcanic Plains of Western Victoria** by P. Reichl (book number G/07 REI)? It was last seen on display at the front table along with other displays of books, etc relating to Bill Birch's talk in November last year.

FROM THE PAST

...Heather Cameron

The GFNC excursion to Bellarine Peninsular on 20 February 1972 covered several areas rich in wildlife, including Lake Lorne and The Basin near Drysdale.

At the top of the hill at Murradoc Road there was an excellent view of Swan Bay, Edwards Point and Duck Island; then down to St Leonards.

Before lunch a beach walk resulted in a wonderful range of seashells, including evidence of the existence of the Common Sand-snail and mussel shells. Also of interest were fish washed onto the beach, including a Ray.

After lunch plants noted on a walk down to the 'East Arm' of Edwards Point were, among others, fine stands of Wirilda Wattle, Needle-leafed Mistletoe and Coast Teatree. Insects were fairly plentiful and several Ring-tailed Possums were seen.

However, birds provided the most interesting sights. 22 notable species were recorded. Highlight of the observations was a flock of 43 Royal Spoonbills.

LIBRARY NOTES

...Heather Cameron

A few of our current periodicals have very extensive back issues:

The Bird Observer (Bird Observers Club of Australia)
March 1955 – December 1999

[*The Australian*] *Bird Watcher* (Bird Observers Club of Australia)
March 1959 – December 1999

The Emu (Royal Australasian Ornithologists Union)
July 1910 – December 1999

The Victorian Naturalist (Field Naturalists Club of Victoria)
January 1927 – December 1999

PROJECT CORROBOREE

It appears that every known breeding site for the Corroboree Frog has been destroyed in the recent fires in the Kosciuszko National Park, where the frog was known from only a few sites

The Corroboree Frog is Australia's most endangered frog, with only a few 100 individuals known in the wild before the fires. A captive breeding program had fortunately been set in place by a recovery team at the Amphibian Research Centre. This may be the last hope for the frogs' survival.

Donations to Project Corroboree will help extend the breeding and housing capabilites at the ARC's endangered frog facility. Cheques or money orders can be sent to:

Project Corroboree
PO Box 959
Merlynston 3058

or use the secure online site:
http://frogs.org.au/corroboree/donate/html

(make cheques payable to the Amphibian Research Centre or ARC)

Victorian Frog Group Inc. Presents

HALF A CENTURY OF FROGS IN VICTORIA! (almost)

by Dr Murray Littlejohn

Friday, March 14th, 7.30pm
Melbourne Zoo, Education Resource Centre (ERC)
(Enter at the gate to the right of the front entrance)

Dr Murray Littlejohn has spent half a century observing the habits of frogs. He began in Western Australia in 1953, beginning his work in Victoria two years later. Murray and his wife Patsy have travelled the world studying frogs but on this night Murray will travel back in time to the years when frogs were not well liked and those who studied them were viewed as somewhat crazy. Don't miss this special event including LIVE DISPLAYS of many of the frogs discussed during Murray's presentation. Bring as many friends as you can find, cost is a gold coin donation for non-members.

Into the Lost World of Erewhon

... Rachel Keary
McCannRd, Mt Duneed, 3216

The title is that of an Eco tour I went on for eight days at the end of November 2002. The tour looked at the flora, fauna, and human habitation of the Canterbury Plains and sub-alpine and lower alpine regions west of Christchurch. It was totally involving and exactly what I needed after the stress of a course I did in the previous 4 months. My sister Charlotte from Maitland is a keen birder so I invited her along. We met at Christchurch airport.

In the couple of days before the tour started we walked through Riccarton Bush in suburban Christchurch. This is about half a hectare of natural bush preserved for the people of Christchurch. At that stage very little of it looked familiar to us. We also went to the museum and looked at the preserved birds and walked through the Botanic Gardens, but noted that the section on New Zealand plants was not well maintained. While in the gardens we saw New Zealand Scaups, *Aythya novaeseelandiae,* first cousins to our Hardheads, with some white around the grey/ blue bill and tan with some mottling on the lower abdomen.

When the tour bus arrived it was an eight seater with Tussock & Beech Ecotours on the side. Warren, who led the tour, is a botanist, has taught high school ecology, and had set up the alpine plant section of the Botanic Gardens, now in disrepair. The four others on the tour were from different parts of New Zealand. We drove across the Canterbury Plains with many more sheep than people and had our introduction to the braided rivers of the plains. The grey gravel on the beds of these rivers is a glacial outwash called greywacke. The rivers are wide with variable channels cut through the greywacke by each year's snow melt from the Alps.

We had an old and well maintained cottage as our home for most of the time. This was in a small town called Stavely that had seen more prosperous days when there were plans to bring the railway to it from Methven. Now Methven has lost its railway too, but its future is assured as the town servicing the Mount Hutt ski area. Close by was Mount Somers which is in the foothills of the Southern Alps. Mount Somers and another nearby mountain are volcanic, consisting mainly of andesite and rhyolite with other minor components. Other nearby mountains are of the sedimentary greywacke.

Much of the surrounding area is privately owned as Mount Somers Station which has had an interesting history as the ownership changed over the years. One claim to fame is the limestone quarry on Mount Somers Station. It is no longer an active quarry. There we found an old stone cottage and an information board about the quarry. The limestone there is called high compression stone with a compression ratio of two and a half tons per square inch. It was formed during the marine transgression 40—50 million years ago and during the 1880s 700 tons of the stone was extracted each week. Quite a lot of it was exported to Melbourne as ballast in sailing ships. In Melbourne it was used as arches, pillars, and corner stones. It is included in St. Patricks Cathedral and in Parliament House.

We also spent two days at Mount Potts Station which is more remote. The view from Mt. Potts is amazing and was described by Samuel Butler, the English writer, when he lived in the valley in his twenties trying to make money sheep farming in the mid-1800s. His writings from New Zealand included the book *Erewhon* which is taken up in the name of Erewhon Station further on. There is a fertile plain with the wide braided Rangitata River in the distance. Behind it are mountains with other rivers slicing through them to meet the Rangitata and to the right the river valley with snow capped mountains leading to the Southern Alps. At the head of the valley is a Wilderness Area called the Garden of Eden; high, distant, snow covered, and usually cloud covered. In the foreground there is a small mountain called Mount Sunday with the terminal moraine of one of the glaciers which once covered and shaped the land. Mount Sunday is one of the sites used in the making of *The Lord of the Rings* films.

Birds

It was on one of the braided rivers that I found the prize bird of the trip. Found is not the right word. I almost walked on a Wrybill, *Anarhynchus frontalis*. This small bird (20 cm) is a soft grey on the back and white underneath, and has a dark band across the breast. It is almost the colour of the greywacke. It has its beak bent to the right side and uses it to turn over the stones to find beetles and other insects. Its 2 or 3 eggs are laid on the stones. As I stood still, it moved around on the ground a few metres away and was eventually joined by its mate and they flew like low-flying swallows across a small stream to another part of the greywacke. In the meantime Charlotte had her binoculars trained on a juvenile Banded Dotterel, *Charadrius bicinctus,* that is, our Double Banded Plover. Crouched on the stones it too looked a bit like a Wrybill.

As we travelled to braided rivers, lakes, and beech forests there were many birds, some indigenous to New Zealand with Maori names, some immigrants which chose to stay, and many imported by man. To mention some:

- Crested Grebes are becoming rare, but we saw about 30 of them in different places.
- Black Fronted Terns (Whiskered Terns) at various times near larger stretches of water.

South Island Pied Oystercatchers, *Haematopus ostralegus finschi,* near the terns.

- Rifleman, *Acanthisitta chloris*, 8 cm. This yellow, black, and white bird has almost no tail and a straight, sharp beak. It has a high-pitched call and searches bark crevices for insects and spiders. One of our group saw them in a remnant of Mountain Beech forest at Mount Potts.
- The New Zealand Fantail is friendly and fairly common in gardens around Christchurch. It is the same species as our Grey Fantail but looks a little more russet.
- The White-faced Heron and Cattle Egret have helped themselves to New Zealand.
- The Welcome Swallow has become common since 1958, but was a rare visitor before that.
- The Black Swan and the Canada Goose have both been introduced.
- The Paradise Shelduck, *Tadorna variegata,* 63 cm, is seen on pastures and small lakes and ponds. This is a case where the female is more colourful than the male. The male has a black head and breast with mottled black on the back and with chestnut, green and white wings. The female has a white head and chestnut breast fading to mottled black underneath and on the back. Her wings are also chestnut, green and white.
- The Pied Stilts, New Zealand Shovelers, Spur-winged Plovers, and Buff-banded Rail are birds we share across the Tasman by different names.
- Black-billed Gulls *Larus bulleri* are inland birds of the South Island. They are the same size as the Silver Gull, but are much less scavengers. They usually eat live prey including insects.
- Two birds which were familiar, but not quite, were the Coot and the Purple Swamphen. The Coot is a sub-species of ours, *Fulica atra australis.* The Swamphen or Pukeko is a related species, *Porphyrio melantos*, which is described as a shy bird although widespread throughout swamps and on grassland. It has a variety of calls including 'Œpoo-koo-koo'.
- Bellbirds, *Anthornis melanura*, 20 cm, are found throughout New Zealand. Their song of liquid, bell-like notes varies with district.
- Small birds which been introduced to New Zealand include:
  Hedge Sparrow, *Prunella modularis*, of the same genus as the Siberian Accentor.
  Goldfinch familiar to us.
  Redpoll, *Carduelis flammea*, from northern Canada and Alaska and found in the sub-alpine areas of the South Island of New Zealand.
  Yellowhammer, *Emberiza citrinella*, of the same genus as the North American buntings.
  Chaffinch, *Fringilla coelebs*, which is common in Britain.
- One bird of note is the Kea, *Nestor notabilis*, which is a large, 46cm, parrot with mottled buff and dark grey feathers on its back, and an orange wash on the belly. The underwing has some soft pink colouring. It has a strong beak with an overhanging upper mandible. It was thought to attack sheep and was shot in large numbers by early settlers. Although some individuals will attack injured sheep their main food is roots, fruit, and nectar, and insects and carrion. They are tame and playful birds as the one we met at the Mt Hutt ski village proved to be. It seemed to be waiting there for any food we could offer or to attack the windscreen wipers of the bus if it felt bored.

Kea

Plants

Many of the trees were referred to by their Maori names and I did not have resources or time to learn much about them. The beech trees are a significant part of the forests and that is a good place to start. At lower levels near Stavely was *Nothofagus solandri var. solandri,* the Black Beech. This often has a black trunk although it is not named for this. The blackness is sooty mould growing on a sugary fluid, honeydew, drawn out of the phloem by a small scale insect which is trapped in the phloem. This honeydew is food for bellbirds, insects, skinks and other forest animals. The tree also benefits as honeydew falling on the ground aids the growth of nitrogen-fixing bacteria and this boosts the nitrate levels in the soils. On Mount Somers and also in a remnant of forest at Mount Potts is the Mountain Beech, *Nothofagus solandri var. cliffortioides*, a smaller tree than the *solandri* variant. Both of these have leaves with smooth edges. It was exciting when we reached higher levels and found the Silver Beech with rounded serrations on the leaves. The Silver Beech is host to the *Cyttaria gunnii* fungus with rounded and dimpled fruiting bodies called Beech Strawberries. The Silver Beech here is one of the isolated stands of the forests which were once widespread in the Canterbury area.

Some other trees of the forests are:

- Mountain Five-finger, *Pseudopanax colensoi*, is a small tree up to 5 m tall. Its leaves have stalks up to 20 cm long and 3—5 leaflets with 1 cm stalks or no stalk. The leaflets are thick, bright green, have a well marked central vein, and serrated edges. They can be up to 17 cm long and 7 cm wide.
- Mountain Horopito, *Pseudowintera colorata*, is a shrub to 2 m tall. The leaves are variable, being 2-6 cm long and 1-3 cm wide, smooth margined, and blotched with red and sometimes yellow. The leaves taste a little peppery, but nothing compared with the taste of Australia's mountain pepper.

- Broadleaf, *Griselinia littoralis*, is a tree up to 10 m tall with a short twisted trunk. The yellow-green fleshy leaves are 5—2 cm long and 4—5 cm wide. In wet climates it can be an epiphyte with roots descending to the ground.
- Lancewood, *Pseudopanax crassifolius*, is a commonly encountered small tree in forests mostly in the lowlands. It grows up to 15 m tall and is remarkable in having contrasting forms in the juvenile and adult trees. The juveniles have a slender, unbranched trunk with a cluster of strongly deflecting leaves at the top. These juvenile leaves are about 1 m long and 1 cm wide. The adult stage has a many-branched trunk and much smaller leaves, being 10—20 cm long and 2—3 cm wide. The trunks of the juvenile trees are used for walking sticks; we were provided with hiking poles made from lancewood. Also, watch *The Lord of the Rings* to see the hobbits with lancewood hiking poles. A wedding party even borrowed our poles to be photographed as hobbit folk.
- Celery Pine, *Phyllocladus aspleniifolius var. alpinus*, grows to about 9 m in sub-alpine forests. It belongs to the family Podocarpaceae and its flattened celery-like leaves are actually flattened branchlets functioning as leaves.
- Widespread genera within New Zealand are Pittosporum with 26 species, Coprosma with about 50 species in all types of vegetation from coast to mountain top, and Hebe with over 100 species characterised by leaves which are opposite and in pairs.
- Another plant of note is the Matagouri, *Discaria toumatou*, a very prickly plant which was once widespread across the Canterbury plains. It has few very small leaves, but the branches and the needles contain chlorophyll. The early settlers burnt the plains to clear the Matagouri and their writings tell of the pleasure of watching those fires. We had a look at a patch of Matagouri not far from the Beech forest remnant with the Rifleman birds. On one of the Matagouri was the female plant of the *Clematis morata*. As we had seen the male plant some distance away beside a lake the day before, we can only hope there are other specimens of the plant which have not yet been found or the future of this clematis in the area looks doomed.
- A tussock grass we saw in some poorly drained sub-alpine areas is the red tussock, *Chionochoa rubra*, which formed areas of copper-coloured grassland.

A highlight of the trip was a day at Mount Hutt investigating the alpine plants. A late fall of snow made that a little difficult but it was well worth the effort. About 93 per cent of the alpine species are endemic to the New Zealand Biological Region which includes the subantarctic islands. A small number of species of the more conspicuous genera are represented outside New Zealand, in Australia, South America and South Africa. We started with the Kea bird and some South Island Edelweiss, *Leucogenes grandiceps*, near the structure at the head of the bungy jump. There were a few flowers as the snow and cold weather had delayed flowering.

Plant list of Alpine area, mainly on greywacke scree and in rocky areas:
Dracophyllum uniflorum, Turpentine shrub
Luzula pumila
Aciphylla monroi Wild Spaniard—lance-like sharp leaves
Celmisia armstrongii, False Spaniard—sharp leaves
Celmisia walkeri
Celmisia augustifolia
Kelleria dieffenbachii previously in the genus *Drapetes*
Epilobium purpuratum
Carmichaelia monroi
Ranunculus crithmifolius
Ranunculus insignis
Ranunculus monroi
Helichrysum bellidioides
Leptinella pyrethrifolia
Oreobolus pectinatus
Ourisia caespitosa
Brachyscome sinclairii
Gaultheria depressa var.novae-zelandiae—a mat-forming snowberry
Raoulia eximia
Raoulia mammilaris. These two Raoulia species form what are called Vegetable Sheep, dense light grey cushions up to 2 m across and 30 cm deep. At first glance they look like sheep lying down amongst the rocks.

I cannot claim to have given a complete list of birds or plants, but I hope I have given an idea of a different ecology.

Threats to the environment

Just as we have many threats to our environment, weeds and introduced animals, New Zealand's has problems at least as great.

The first encounter was on a tour of the Christchurch surrounds on our first day when the Cascade Mountains were covered in yellow flowers which turned out to be Gorse, and two different types of Broom, *Genista sp. and Cytisus sp.* It was difficult to tell what might have been there originally.

Another threat was shown at Erewhon Station further up the valley from Mount Potts. We walked along the edge of the Rangitata River to see Russell Lupins in flower and realised that this river was threatened as much as other rivers were. Broom, Gorse, and Lupins grow on the greywacke. With each year's flood sediment builds up around these plants creating islands which give shelter to predators of the Wrybills, Black-fronted Terns, and Black-billed Gulls, all of which lay eggs on the greywacke of the riverbeds.

The early settlers could not see that the scree slopes were stabilised by the many small alpine plants listed above. They planted pine trees, *Pinus contorta* in three different varieties, from North America and *Pinus muga*, the dwarf mountain pine of Europe. These pines seed prolifically and are spreading across the scree slopes.

Hieracium pilosella and *H. praealtum* are small flat weeds which grow in alpine and sub-alpine areas. They are more common in the lower sub-alpine area where I remember it growing on the cushion plants and across the ground between and over other plants.

There are no foxes in New Zealand, but weasels and stoats do a lot of damage to ground-nesting birds and to the flightless birds like the Kiwi and the Kakapo which is a large Owl-parrot.

Our Brush-tailed Possum breeds happily and eats trees and trees and trees. A trap has been developed containing cyanide that only possums seem able to open, but this seems very dangerous. Another way to dispose of possums that I noted was to incorporate their hair into merino wool and make some soft and beautifully warm winter fabric. I bought some socks and gloves of possum-wool for my daughter and her husband who live in Toronto.

And the honeydew which covers the trunks of those beech trees with trunks and provides food for bellbirds, native bees, and skinks also provides food for introduced wasps. Apart from the danger that people will be stung, the wasps are a serious problem for the native animals that feed on the honeydew; after the wasps have finished there is little left for them.

There are times when it is good to explore a new place with some like-minded friends, a pile of books and plenty of time. And sometimes, when time is limited, it is good to meet people with like interests and with a guide who knows the area and is willing to answer questions or to help find the answer. I am glad I was able to explore this fascinating area the way I did.

SUMMER CAMPOUT

...Dick Southcombe

As bushfires in Victoria's high country prevented our scheduled stay at Howmans Gap, last minute arrangements were made for members and friends—total 15—to stay at two holiday houses at Apollo Bay, for a week beginning Tuesday 28 January. Because birds were accustomed to being fed on the Marengo house balcony, Magpies, Galahs, King Parrots, Crimson Rosellas and sparrows (pecking order) were seen close up. The male, female and immature King Parrots were observed in detail as they perched on your wrist to feed from the hand. Little Wattlebirds and the New Holland Honeyeaters fed in the garden, bristlebirds were seen but more often heard, and a Black-shouldered Kite often hovered over the beach. Australian Fur Seals were seen most mornings and evenings on Marengo reef.

At times the weather was hot, humid, foggy, wet with very heavy rain, occasionally windy, but mostly fine and warm. Over 6 days we visited Marriners Lookout—thwarted by fog—Elliot River, Shelly Beach, Maits Rest, the Redwoods, Hopetoun Falls, Triplet Falls, Cape Otway, Rainbow Falls, Marriners Falls, Paradise, Sunnyside Road, Stevensons Falls and Busty Road.

Recent heavy rain made the falls spectacular; many Otway snails were seen; a huge Tiger Snake caused a scare on the steep narrow path at Elliot River; the fern gullies were magnificent, and we wondered how ferns could become established on the sheer rock face at Stevenson Falls. We noticed there was absolutely no vegetation beneath the Redwoods; we admired the Mountain Ash and Myrtle Beech; and took particular interest in the Tree Lomatia *L. fraseri,* Snow-berry *Gaultheria hispida,* Privet Mock-olive *Notelaea ligustrina* and Victorian Christmas Bush *Prostanthera lasianthos.*

Club library books and microscope assisted plant study during the evenings and the telescope gave excellent views of the seals. The new GPS unit was not mastered. The company and hospitality was first class, a typical GFNC campout or was it a campin?

MAMMAL TRAPPING REPORT
Stonehaven, 12-15 February 2003

...Trevor Pescott

GPS 38°08'S, 144°14'E NRE Permit No. 10002127

Land-owners Jillian and Gordon Rough allowed the Mammal Survey Group to undertake trapping on their property, west of Dears Lane, which extends from the Hamilton Highway to the Barwon River. Most of the land is flat with the basalt boulders either in-situ as 'floaters' or stacked into heaps. Several low dry-stone fences also exist. The river valley is carved into the land and follows the edge of the basalt flow which formed the higher flat land. Riparian vegetation consists of River Red Gum, Blackwood, Silver Wattle, teatree and bottlebrush, Tree Violet and Tangled Lignum over Poa tussocks. Sheep are grazed on the property which is currently suffering from the prolonged dry conditions. The weather was fine and warm to hot.

Five trap lines were set viz

E1—E5	on the 'front paddock' where basalt floaters remain in situ
E6—E10	beside rock-stacks and where basalt floaters remain
E11—E15	beside a dry-stone fence
E16—E21	beside old rock walls
C1—C7	on the river-bank at the water's edge

21 Elliott traps (E1-21) and 7 cage traps (C1-7) with C5-C7 on 2 nights only — total 81 trap-nights.
Bait: peanut butter, honey and oatmeal in Elliott traps, tinned fish (sardines, tuna) in cages.

Results:

13.2.03	3 Black Rats *Rattus rattus* in E6, C1, C3
14.2.03	3 Black Rats *R. rattus* in C3, C4, C5
	1 Water Rat *Hydromys chrysogaster* in C6
	1 Common Brushtail Possum *Trichosurus vulpecula* in C1
15.2.03	1 Black Rat *R. rattus* in C4

The bait in the cage traps was changed from sardines to tuna for the third night, with little success, although three of the seven traps were set-off without catching anything—perhaps bumped by sheep.

Measurements of *R. rattus* (n = 6)	nose to vent	tail
	100 mm	175 mm
	200	200
	125	145
	115	160
	120	160
	215	232

There were obvious size differences with 2 rats clearly adult while 4 were juveniles. A color difference was apparent too, with the adults dark grey, grizzled with brown, on the back and pale grey on the underside of the body, while the juveniles were lighter on the back without the brown grizzle.

Other fauna recorded:-
Eastern Grey Kangaroo: several across the river
Platypus: at least one that was watched for some time on 15.2.03 as it swam and dived in the river until we left the site at 11.00 am.
European Rabbit: common

Birds: (numbers seen, where appropriate, in brackets)

Darter (1)	Little Corella (50)	Superb Fairy-wren
Little Pied Cormorant (1)	Galah	Yellow-rumped Thornbill
White-necked Heron (1)	Sulphur-crested Cockatoo	White-plumed Honeyeater
White-faced Heron	Spotted Turtle-Dove	Australian Magpie
Nankeen Night Heron(1)	Purple-crowned Lorikeet (2)	Little Raven
Straw-necked Ibis	Red-rumped Parrot	Welcome Swallow
Australian Wood Duck	Eastern Rosella	Richards Pipit
Pacific Black Duck	Rainbow Bee-eater (4)	Fairy Martin
Wedge-tailed Eagle (1)	Willie Wagtail	Red-browed Finch
Brown Falcon	Magpie-lark	House Sparrow
Peregrine Falcon (1)	Grey Shrike-thrush	European Goldfinch
Dusky Moorhen	White-browed Scrubwren	Common Starling

Note: Jillian Rough has previously recorded on the property Koala, Fat-tailed Dunnart (see *Geelong Naturalist*, vol.36, no..6, Oct. 2000), Black Wallaby and Red Fox, but these were not recorded during this trapping exercise.

Fiddler Beetle—*Eupoecila australasiae* (Donovan) (Scarabaeidae—Celoniidae)

...Dave King
216/86 Church St,Grovedale, 3216
kingdf@optusnet.com.au

Introduction

During a visit to the Ocean Grove Nature Reserve (38°14'33"S, 144°31'53"E), on 18 January 2003, a mass of blossom on an *Angophora costata* was observed. Closer inspection revealed that practically every corymb of white flowers contained a specimen of *Eupoecila australasiae*. Although this beetle has been seen in the area before, it was invariably a single specimen. It is to be found in all States with the exception of WA. (CSIRO, 2001).

By 3 February 2003, practically all the blossom on *A. costata* had finished, and all signs of *E. australasiae* had disappeared, indicative of a naturally short lived adult. Eggs are laid in damp situations, within or under rotting logs. Upon hatching the larvae feed on the rotten timber. These larvae are similar to the curl grub commonly found in pastures and lawns, except they remain straight in attitude. Pupation takes place in cocoons constructed of debris and soil. The diurnal adults emerge during early summer and feed on nectar, (Britton, 1970).

Description

This species must be one of the more spectacular of our beetles to be found locally, relatively large, 18mm overall, of a form typical of the scarabs and similar to the better known 'Christmas Beetle' *Anoplostethus opalinus.*

It has a polished enamel appearance, with a base colour of dark mahogany patterned with bright yellow markings. The lateral edge of the elytrum, posterior to the shoulder, has a concave contour that together with the markings and polished wood appearance gives credence to the common name 'Fiddler Beetle'.

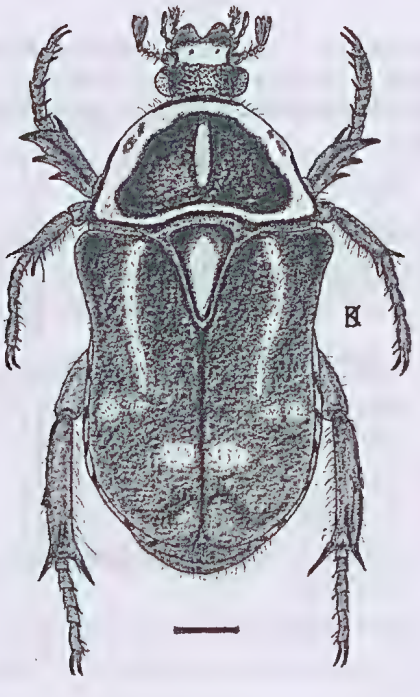
It is prognathous (Gk *pro,* forth; *gnathos,* jaw), having mouthparts projecting downwards. Maxillary and labial palpi are visible from above and the labrum extends to cover the mandibles. Inserted immediately forward of the eyes are the antennae that have ten segments, with the distal end terminating in a club consisting of three lamella hinged like the leaves of a book. The compound eyes are narrowly emarginate anterior-dorsally by the lateral extension of the frons.

Particularly prominent is the scutum; a shield-shaped process situated between the elytra at the anterior end. This may well allow the elytra to be extended laterally when in flight, in contrast to most beetles having them held near vertical during flight, (Britton, 1970). The pygidium (Gk. *pygidion,* narrow rump), which is the terminal segment of the abdomen, is not covered by the elytra.

The forelegs are fossorial, the tibia possessing a prominent apical spine and the lateral margin toothed. All legs have five segmented tarsi, which terminate in a pair of movable simple claws.

References

Britton, E.B. (1970) Coleoptera. *In* Insects of Australia, ed. CSIRO, Melbourne University Press.
CSIRO (2001) www.ento.csiro.au/aicn/name-s/b-979.html



Fiddler Beetle – *Eupoecila australasiae*
Scale bar = 2mm

SHELL SAMPLING AT EDWARDS POINT 16/3/03

... Noel Schleiger
1 Astley Street, Montmorency, 3094

Seventeen sites approximately 100 metres apart were the locations of line traverses across the sandy beaches of the Edwards Point peninsula, from the vegetated zone to the water's edge. Each participant picked up mollusc shells first along the line then away from it on equal distance either side until 100 shells were collected. Most collected were pelecypod bivalves. This is because of the dominance of sand banks close to shore. Univalve or gastropod molluscs tended to be more abundant when it is rocky offshore.

The Edwards Point peninsula was a N-S series of sand dunes and swales whipped up by W to E winds during low sea level. Since the ice age the sea level has risen and reworked the sand from these dunes on to offshore sandbanks overlying Red Bluff sandstone of Pliocene age. This red sandstone is common all around the Bay and marks a former higher level river system before uplift. Since uplift, rivers have been rejuvenated and left these former river sands occupying higher ground. However, in this part of Port Phillip Bay the red sandstone (laterite) has been depressed below sea level and since covered with the reworked sand.

The most common bivalves were *Katelysia* (Sand Cockles), *Fulvia* (Heart Cockles), *Venerupis galactites* (Milk Stone) and *Pseudarcopagia victoriae* (Round Tellin), all of which are filter feeders in the sand banks. Their common predators are *Polinices conicus* (Conical Sand Shell) and *P. didymus* (Common Sand Snail), both of which bore conical holes in the these bivalves in search of the soft parts. Drilling is assisted by the excretion of amino-acids by the polinicid before it drills the bivalve shell with its radula. The proboscis is then inserted through the drill hole and with the help of dissolving enzymes sucks up the soft parts. Muricids (Three-shaped Murex) similarly drill cylindrical holes in bivalves. The drills are narrow without any bevelled edges. Here are three of the problems we had during the ID session at the car park.

Problems in Identification

1. ***KATELYSIA*** occurs in three species. The most common is *K. rhytiphora* which is the Oval Sand Cockle (Fig. 1A), *K. peroni* is more roundedly oval, L/W≥ 1:20. *K. scalarina* (Stepped Venerid) has a very straight posterior margin. Its growth rings are dominantly ridged without bifurcation (division), whereas *K. rhytiphora* has bifurcating growth rings especially in the anterior zone.
2. **LEFT OR RIGHT VALVE.** To determine which is right and which is a left valve:
   (a) Drop a perpendicular from the umbo to the ventral margin.
   (b) The short part is the front; the longer part the back.
   (c) Imagine your head is the bivalve animal. Hang the valve on your ear so that its front is also your front. That ear is the correct valve. (Fig. 2 Left or Right?)
3. **THE ROUND TELLIN** *Pseudarcopagia victoriae* is difficult as the front and back parts of the shell are about the same size. So, turn the valve over so you can see the teeth and the interior (Fig. 3). This method, using the INSIDE of the valve, works for nearly symmetrical valves, or where the umbo is centrally situated.

Why Count Left and Right Valves?

The value of knowing the number of left and right valves of a bivalve species, especially when its occurrence is abundant, is to assist on the location of the source of its habitat. If conjoined or equal numbers of left and right valves are present the habitat is close nearby. The valves have not travelled far after the death and disarticulation of the valves of the pelecypod.

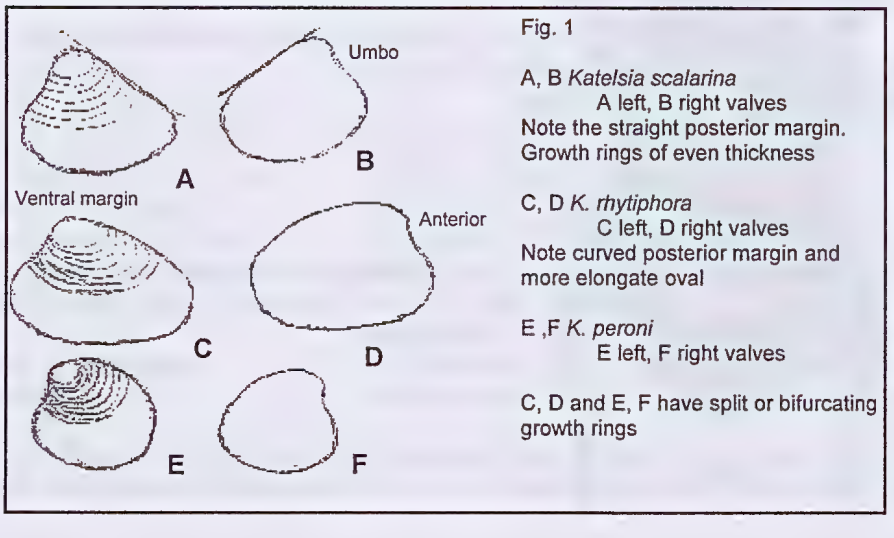


Fig. 1

A, B *Katelsia scalarina*
A left, B right valves
Note the straight posterior margin.
Growth rings of even thickness

C, D *K. rhytiphora*
C left, D right valves
Note curved posterior margin and more elongate oval

E ,F *K. peroni*
E left, F right valves

C, D and E, F have split or bifurcating growth rings

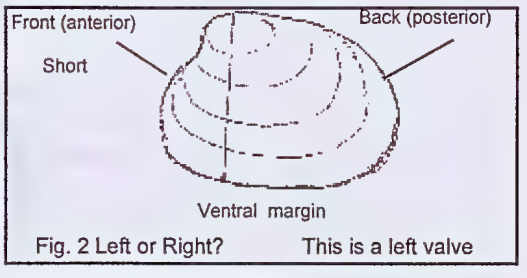


Fig. 2 Left or Right? This is a left valve

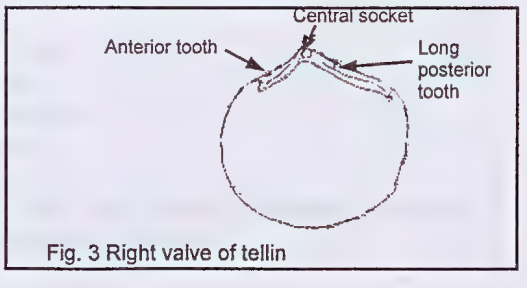


Fig. 3 Right valve of tellin

President's Corner—March 2003

... Diana Primrose

A Publication Sub-Committee meeting was held on 17th February, as was advertised in the February *Geelong Naturalist*. Ten members attended, providing for active discussion and making of recommendations.

The following are some of the issues of particular interest:

- Revision of the front cover and contents pages to maximize space available, and to make it more 'user friendly' for those looking up articles in the magazine. We will have a 'mock-up' to show members tonight. If an agreeable format can be decided upon, this could start with the next volume of the *Geelong Naturalist* (vol. 39).
- Standardising references used for scientific names in articles, and noting our sources permanently in the Geelong Naturalist.
- The importance of writing up items on our specimen table.

The full minutes of the meeting are available to interested members — those attending will receive a copy, other members can see the minutes on file on the President's desk at meetings (as is the case for all Club minutes).

Committee elections take place at our next meeting—our April AGM. All committee positions are thrown open for election. We are pleased to have some potential 'new players' who are interested in nomination—but please don't sit back! We need some more! Nomination forms are available tonight. *See below and over page.*

Ron Mole has announced his 'retirement' from his active Club duties. Ron has been a very active 'behind the scenes' member of our Club. Always bright and helpful, Ron regularly sees to the set-up of the hall for meetings, attends to the sound system, and the many little things which go to keeping the wheels running smoothly. We are greatly indebted to Ron for his help over the years. Our special thanks to you Ron, we greatly appreciate your contribution to the Club and we look forward to your continuing association with us.

This brings me to the point of 'helpers'. Do we have someone willing to pick up, or help with, the background work Ron has been doing? We are grateful to Dennis Greenwell for being a back-up for the sound system when Ron has been unavailable, but we do need a 'Ron replacement' please, to share the work around. Please see me or one of the Committee if you can help. Have a chat with Dennis if you think you can help with the sound system—and let me know the outcome!

'On the Table'—this could be the title for a report on our monthly General Meeting specimen table. Do we have someone willing and able to fulfil this little task? The specimens we do have are very interesting and should be recorded for 'posterity'—as well as for those members not at the meeting (to say nothing of the ones who 'bolt' during the break!). Please see me, or the Editor, if you are able to help. We do encourage members to bring specimens for discussion at our meetings and it is important these items are recorded.

COMMITTEE NOMINATIONS

Nominations for the 2003/2004 Committee are now being called for, and can be received by the Secretary until 8.00 pm Tuesday 1 April, 2003, the Annual General Meeting.
All positions become vacant each year.
To remind members of the GFNC Committee positions, they are as follows:

President
Vice President
Secretary
Minutes Secretary
Treasurer
Committee Members — 7, including Editor

... see over for nomination form. Please photocopy if more are required

FUNGIMAP 2nd NATIONAL CONFERENCE
Rawson Village, Gippsland

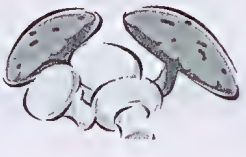
Thursday 15th-Tuesday 20th May

Proudly hosted by the Field Naturalists Club of Victoria and supported by the Royal Botanic Gardens Melbourne

The ideal opportunity for anyone with an interest in fungi to learn and practise fungi identification.

On Friday 16th May, a series of talks will be presented covering Fungimap and a wide range of fungi topics, which will cater for a general audience.
The following three days, there will be workshops and forays at various skill levels, to help everyone increase their knowledge of fungi, and gain practical experience with identification techniques: from 'An Introduction to Fungi' for beginners to specialised workshops on particular groups or techniques for those with more experience.
Speakers and leaders include a wide range of people from across Australia willing to share their great knowledge about and enthusiasm for fungi, including Tom May, Teresa Lebel, Katrina Syme, Tony Young and Neale Bougher.
Renowned fungi photographer **Bruce Fuhrer** will present a talk on Saturday evening, entitled **'My Favourite Hectare'**. Bruce will discuss his fungal studies at Warrandyte State Park over a number of seasons, illustrated with his magnificent slides.
Fully-catered, basic accommodation is available on-site. Transport is available from Melbourne. Cost: $400 all inclusive, or $75 for just Friday's talks. Conference Registration fee is $175, Standard Accommodation is $45 per night. Further details and a registration form can be found in Newsletter 18, which is also on the website.
Rawson Village is near Walhalla.
For any queries, please contact the Fungimap Coordinator, Gudrun Evans, at the Royal Botanic Gardens Melbourne. Phone: (03) 9252 2374
email: fungimap@rbg.vic.gov.au
Website: http://fungimap.rbg.vic.gov.au

BOOKINGS EXTENDED: MUST CLOSE 15TH MARCH



PLANT LIST Excursion Edwards Point 16/2//03

Teatree Dune Scrub P=Plentiful, S=Steady, O=Occasional

Scientific Name	Common Name	
Acacia longifolia	Coastal Wattle	P
Acacia paradoxa	Hedge Wattle	O
Acacia pycnantha	Golden Wattle	O
Acacia retinodes var. *uncifolia*	Coast Wirilda	P
Acaena novae-zelandiae	Bidgee Widgee	O
Amyema preissii	Wire-leaf Mistletoe	P
Austrodanthonia sp.	Wallaby Grass	S
Bursaria spinosa	Sweet Bursaria	O
Carpobrotus rossii	Karkalla	O
Cassytha glabella?	Dodder?	P
Clematis microphylla	Small-leaved Clematis	P
Dianella brevicaulis	Small-flower Flax-Lily	S
Dianella revoluta	Black-anther Flax-Lily	O
Dichondra repens	Kidney Weed	S
Disphyma crassifolium	Rounded Noonflower	O
Isolepis nodosa	Knobby Clubrush	S
Lepidosperma gladiatum	Coast Sword-sedge	S
Leptospermum laevigatum	Coast Teatree	P
Leucopogon parviflorus	Coastal Beard-heath	P
Lomandra longifolia	Spiny-headed Mat-rush	P
Myoporum insulare	Common Boobialla	O
Ozothamnus ferrugineus	Tree Everlasting	O
*Pittosporum undulatum**	Sweet Pittosporum*	S
Poa sp.	Poa Tussock	S
Pteridium esculentum	Austral Bracken	S
Rhagodia candolleana	Seaberry Saltbush	P
Solanum lanciniatum	Kangaroo Apple	S
Tetragonia implexicoma	Bower Spinach	P

*introduced species

Rosalind Smallwood

The plant list of the Saltmarsh area and the bird list for the excursion will be published later—*Ed.*

COMMITTEE NOMINATION FORM

I HEREBY NOMINATE .....
Member of GFNC Inc

for the position of

.....

on the Committee of the Geelong Field Naturalists Club Incorporated.

Signature of Proposer.....Member

Signature of Seconder.....Member

I ACCEPT NOMINATION FOR THE ABOVE POSITION

Signature of Nominee .....

INTRODUCTION TO MARINE MOLLUSCS

Report of illustrated talk by Noel Schleiger and Dorothy Mahler given at the general meeting of 4 February 2003

...Roy Whiteside

The emphasis of the talk was to describe some of the univalves and bivalves likely to be seen on an excursion to Edwards Point on the Bellarine Peninsula.

The phylum **Mollusca** means shellfish. All molluscs have bilateral symmetry and are found mainly in saltwater but there are also some freshwater species. They have a mantle which sometimes covers the whole shell.
Mollusca consists of 5 classes: **Polyplacophora, Gastropoda, Pelecypoda, Scaphopoda** and **Cephalopoda**
1 POLYPLACOPHORA or Chitons (formerly known as **Amphineura** i.e. nerves all round). It is a diverse family found around the world with some 730 species in southern Australia. These molluscs are flattened with 8 shell valves or plates held together by a mantle known as a girdle. Identification of species is aided by a study of plates and girdles. They have a broad foot which enables them to withstand considerable wave shock.
Examples of chitons found in the local area are *Ischnochiton australis* and *I. smaragolinus*

2 GASTROPODA means 'stomach on a foot'. There are two ways of classification: (a) from palaeontology where the hard parts are studied and (b) zoologically where the soft parts are studied. Some species have gills and others have lungs. This class comprises the **Univalves** of which some 70,000 species have been identified. Most species have a large right-handed spirally-coiled shell into which the animal can fully withdraw, the entrance then being sealed with a rounded structure known as an operculum which is attached to the foot. The majority of gastropods are grazers which have ribbon-like radula with rows of chitinous teeth which scrape plant and animal material off hard surfaces. The shape and arrangement of the radula is important in species identification.
There are 9 orders of Gastropoda, of which the 3 main ones are :

Archaegastropoda which have existed since the lower Cambrian period (550 million years)
Mesogastropoda from the Triassic (250 million years) and
Neogastropoda from the Paleocene (90 million years) which includes the period when Australia drifted away from Antarctica.

On top of a shell there is a small unit known as a protoconch which is the first shell to form following fertilisation of the egg. The organism either attaches itself to a rock or it can be free swimming. As it grows it secretes calcium carbonate which forms a spiral shell. There is another valve known as the operculum which enables the aperture of the shell to be shut tight for protection. The spire of the shell goes from the body whorl up to the protoconch. An anterior canal allows the soft parts to protrude with some protection and help with the feeding. Ribs are known as costae and the lines between the ribs are known as sutures. The main structure around which the animal spirals is the columella. This has folds known as plaits which are an aid to species identification. The shape of the aperture is also important in identification.

Some Archeogastropods still exist today and the following are examples of some of the species to be found at Edwards Point:
Ear Shell or Abalone, *Haliotis ruber* which has an attractive mother-of-pearl interior. This has a low spire and a large ear-shaped aperture, a row of respiratory holes and an extremely large foot to secure a firm grip on rocks in rough seas.
Variegated Limpet, *Cellana tramoserica.* This species is intertidal and each individual returns to the same home location after each feeding excursion, using chemical sensors to retrace its mucous trail. It eats algae on rock platforms.
Choice Seaweed Shell, *Phasianotrochus eximius* is found amongst seaweed to a depth of some metres.
Rib Topped Shell, *Austrocochlea constricta* is found on rocky shores as well as mudflats and seagrass beds. It has prominent spiral ridges which give it a grooved appearance.
Wavy Turbo, *Turbo undulatus* is a popular Koori food.
Painted Lady, *Phasianella australis* exists in various multi-coloured forms and occurs on marine plants just below tide level.

The order Mesogastropoda has approximately 34 families. Some examples are:
Striped-mouth Conniwink, *Bembicum nanum.* This periwinkle and the **Blue Banded Periwinkle,** *Nodilittorina unifasciata* are common locally and cover rocks at high shore levels. They have a striped body whorl and a tight fitting horny operculum. They feed on plankton and give an indication of average sea level.
Conical Horse-hoof Limpet, *Hipponyx conicus* has a symbiotic relationship with Wavy Turbo.
New Holland Worm Shell, *Serpulorbis sipho* does not coil in a regular manner.
Common Mud Whelk, *Zeacumantus diemenensis* is common in shell grit and at Edwards Point.
Southern Wentletrap, *Opalia australis* is quite common around the Bellarine Peninsula.
Shelf Limpet, Calyptraea calyptraeformis usually sits on rocks and is common around Edwards Point.
Two species of Sand (or Moon) Snails from the order Megastropoda in the family Naticidae are the **Conical Sand**

Snail, *Polinices conicus* and the **Common Sand Snail,** *P. didyma*. These are active predators on intertidal sand-flats, feeding largely on buried bivalves and have horny or calcareous opercula.

The order Neogastropoda has approximaely 13 families which are mostly carnivores and include the following:
Lineated Cominella, *Cominella lineolata* which occurs in rock pools and has a unique trail; **Cartrut Shell,** *Dicathais orbita;* **Margined Ancilla** which describes the grooves in the shell; **Banded Nassarius or Dog Whelk** which is only about 1 cm long; **Anemone Cone Shell**, *Conus anemone* which is found in a variety of colours; **Tulip Shell,** *Pleuroploca australasia* is larger, quite common, but dangerous if picked up. Other shells shown were Three-shaped Murex, Mussel Drill, Purple Triton, Reticulated Lepsiella and Wine-mouthed Lepsiella.

In recent times the classification of Phylum Mollusca has been updated by biologists. Two orders containing 5 families, including the air-breathers such as the Siphons and air-breathing sea slugs are now in the sub-class Pulmonata. In the family Siphonariidae is **Van Diemen's Land Siphon Shell**, *Siphonaria diemensis*. This is a very common limpet found on rocks and walls up to and above high tide level. It is dark with white radiating ribs. Another six orders are now classified in the subclass Opisthobranchia. These include the very fragile **Bubble Shell**, *Philine angasi,* naked seaslugs (or nudibranchs) such as *Chromodoris epicuria* (found near Inverloch) and Ocean Beach Slug, *Onchidella nigricans.*

3 Pelecypoda, meaning shovel and feet, are Bivalves. The valves open and a bag comes out and it filter feeds whilst half buried in the sand. There are three broad categories **Taxodonta, Adonta** and **Heterodonta.**
The interesting features of these shells are the 5 or 6 teeth and a pallial sinus where the soft parts adhere to the shell at two muscle scars. The pallial line is the line of attachment, and between this line and the hinge the organism can clamp shut. The left and right hand valves can be distinguished from each other. A bag is brought back and forth as it opens or shuts the valve and each of the teeth fit into a corresponding hinge or depression in the other valve.
Species of the Taxodonta order (meaning many teeth) include:

(a) Sydney Harbour Cockle or Mud Ark, *Anadara trapezia* found off Portarlington and in Western Port Bay although it never grows to the size of fossils at Williamstown. It is assumed that most of this species died out after cooler temperatures were experienced between the last glacial and interglacial period. It is not found very much south of Eden.
(b) Hairy Ark, *Barbatia pistachia,* which is hairy when fresh. It has a curved hinge with many equal teeth.
(c) Dog Cockle, *Glycymeris* sp. found in eastern Tasmania.

The order Adonta comprises species without teeth. They have one large muscle scar but there is no pallial line.
Views of the following types of shell were shown first from the interior and from the exterior:
King Scallop Family, *Pecten fumata,* **Doughboy Scallop**, *Mimachlamys asperrima* which occurs in S.A..
Jingle Shell, *Monia* sp. is found on beaches of the Bellarine Peninsula; **Butterfly Shell**, *Electroma georgiana* lives on kelp, is very fragile and has some mother-of-pearl in it.
Port Melbourne Mussel, *Mytilus edulis* grows on piers and pylons.
Common Mud Oyster, *Ostrea angasi* is very common locally and elsewhere.
The above shells are more attractive on the exterior than the interior.

The order Heterodonta have specialised teeth and comprises a number of families. Examples include **Triangular Tellin**, *Homalina deltoidalis* which lives in mud; **Double-rayed Razor**, *Soletellina biradiata* which looks like sun shining through a cloud. **Angel Wings**, *Barnea australasiae* is a shell which bores into the substrate and *B. obturamentum* which has a kink in the front. Examples were shown of holes made by Barnea in the substrate. Other Heterodonta include **Pipi,** *Donax deltoides* which is popular for bait; **Round Tellin**, *Pseudocopagia victoriae* which has a very tough shell and is found in the St Leonards area; and **Thin-ribbed (Heart) Cockle** *Fulvia tenuicostata* which is fragile but has stronger ribs at the anterior part of the shell.
The family Veneridae contains a number of species:
Ridged Venerid, *Katelysia rhytiphora* often known as a tapestry shell.
Peron's (or Round) Venerid, *K. peroni* has very large pallial sinus.
Feathered Venerid, *Tawera gallinula* which has a purple interior and is found in the Edwards Point region.
Stepped Venerid, *Katelysia scalarina* which has a very straight back to its shell.
Frilled Venerid, *Callanaitis disjecta* is an attractive shell and popular with shell collectors.
Milk Stone, *Venerupis galactites* has a milky colour both inside and out has a large pallial sinus.
Smoked Venerid, *Marcia fumigata* is found live at Eastern beach, Geelong.
Notocallista kingii is common closer to Port Phillip Heads.

4 Scaphopoda (comprises Tusk Shells) which have existed geologically for about 450 million years. These animals secrete a mantle which covers the whole shell. They burrow into the substrate and feed on plankton and protozoa. Fossils of these are found in coal strata.

5 Cephalopoda (comprises many-armed molluscs ie. head on a foot).
This class contains two orders :
Decapoda which include Spirula, Cuttlefish, Squid and Calamari, and **Octopoda** which includes Octopus and Nautilis species

CLUB EXCURSION Bellarine Peninsula, Eastern Shore 16 February 2003

... Dick Southcombe

Salt Lagoon State Nature Reserve
Given the drought of recent years, it was not surprising to find the Lagoon dry and a sole pair of Masked Lapwings on the dirty white crusty surface at the southern extremity. Beaded Glasswort *Sarcocornia quinqueflora*, Southern Sea-heath *Frankenia pauciflora*, Moonah *Melaleuca lanceolata* were flowering and Common Boobialla *Myoporum insulare* bearing lots of fruit although quite wilted.

St. Leonards Lake
The usual variety of common waterfowl were observed on this rather stagnant artificial freshwater lake; a number of geese were waiting to be fed on the verge. Unofficial notices attached to tree trunks indicated the interest some locals have in these feral birds and the difficulties authorities have in removing them. Cumbungi *Typha* sp., the dominant water plant appears to be spreading from both banks.

Edwards Point Wildlife Reserve
Main purpose seashell sampling at low tide. After assembling and enjoying refreshments at the Beach Rd carpark, Noel Schleiger explained the shell sampling exercise we were to carry out on our return from the point. Noel and Dorothy walked along the beach marking the collection traverses, while 19 members began a leisurely stroll through various vegetation communities to lunch sites on the Port Phillip Bay shore of Black Billy Point—Edwards Point is the larger westerly extremity. Eleven of the 18 vegetation communities from around Swan Bay occur on this reserve.

Plants observed flowering were Coast Wirilda *Acacia retinodes* var. *uncifolia,* Wire-leaf Mistletoe *Amyema preissii*, Karkalla *Carpobrotus rossii*, Creeping Brookweed *Samolus repens,* Rounded Noonflower *Disphyma crassifolium*, Kangaroo Apple *Solanum laciniatum* and *Lomandra longifolia,* plus those observed at Salt Lagoon.

Very few birds were noted, no waders, a few Silver Gulls and a few pelicans soaring, Grey Fantails prominent and a few Superb Fairy-wrens in the lesser shrubs.

After a late lunch, we began collecting shells (see Noel's report, p. 10).

We do appreciate Noel and Dorothy's leadership and patience. We hope this excursion's results will complement previous surveys they have carried out at Edwards Point.

BIRD OBSERVATIONS FEBRUARY 2003

...compiled by John Bottomley

Lots of observations of waterbirds again this month but I have not included them here and concentrated on records for birds normally seen in paddocks or in bushland. Rob MacKenzie did see twenty-one thousand Coot at Lake Modewarre in February which cannot not be noted however! Lots of parrots and some interesting records that suggest successful local breeding. The Gang-gangs are back with two records in early February. Keep your eyes open for these lovely cockatoos. The Swift-Parrot seen by Craig Morley in Newtown in early January is unusual for the time of year. There are records for both Needletail and Fork-tailed Swifts but both species have been seen only infrequently over the last few years. Hopefully they will come back in the numbers previously recorded. NOTE RMc is Rob MacKenzie (with a Mac NOT Mc as last month), PWa is Phil Watson, IW is Ian Wong, BG is Barry Gillard, CGr is Claire Greenwell, BL is Barry Lingham, AN is Andrew Nuske, BGN is Belinda Gladman-Nuske. For other observers see previous *Geelong Naturalists* or *Geelong Bird Reports*..

Species	Number	Date	Comments	Observer
Banded Lapwing	26	01/02/03	Long Forest. In paddocks to the west. Two juveniles.	MHe, DHe
	2	01/02/03	Gnarwarre. In noisy flight.	BAt
	6	06/02/03	Princes Highway at corner of Devon Road. One bird sitting on a nest. One juvenile bird with pale bill and face.	JB, LP, MAC
Masked Lapwing	3	16/11/02	Anglesea. Two adults and newly hatched chick on front lawn.	IW
	36	09/02/03	Gnarwarre.	BAt
Crested Pigeon	4	16/01/03	Limeburners Lagoon. On the ground close to the Grammar	PC
Yellow-tailed Black-Cockatoo	2	mid-Nov.	Newtown, Elderslie Reserve. Drinking from waterlogged cricket pitch.	BG
	3	1/12/02	Belmont, flying to the east.	RP
	34+	26/01/03	Gnarwarre. Some breaking galls in acacia trees.	BAt
	4	26/01/03	Moriac.	BAt
	5-6	06/02/03	Otway Ranges, Aire River Campsite. Roosting and flying over pines.	JB, LP, MAC
	20+	06/02/03	Buckley. Flying south from pines.	JB, LP, MAC
	10	10/02/03	Highton. Flying north.	BAt
Gang-gang Cockatoo	1	10/02/03	Highton.	VWD
	1	11/02/03	Balyang Sanctuary. Flying overhead.	BAt
Galah	15	13/02/03	Highton.	BAt
Long-billed Corella	3	08/02/03	Buckley Falls. Flying overhead.	BAt
Little Corella	100+	08/01/03	Winchelsea. Perched in trees.	GB, RBa
	3	18/01/03	Leopold. Two adults and a begging young.	RMc
	250-300	19/01/03	St.Leonards. Flew into Cypress Pines near the jetty.	RMc
Sulphur-crested Cockatoo	25	08/02/03	Highton. Feeding on the ground.	RBa
Rainbow Lorikeet	25+	01/02/03	Buckley Falls Park. Landed in Red Gums.	BAt

Eastern Rosella	2	22/01/03	Buckley Falls Park. 2-6 regularly 04/02/03.	BAt
Swift Parrot	1-2	06/01/03	Newtown. Briefly in the neigbourhood before flying off to the west.	CMo
Red-rumped Parrot	3	22/01/03	Buckley Falls Park. 6-8 on 27/01/03 and 20+ on 31/01/03.	BAt
	6	09/02/03	Modewarre. Drinking from horse trough.	BAt
	5	15/02/03	Gnarwarre.	BAt
Blue-winged Parrot	6	10/02/03	Bellbrae. Approaching a dam to drink.	AW
	2	11/02/03	Mount Pollock.	RMc
White-throated Needletail	20+	03/02/03	Brisbane Ranges, DeMotts Road.	JB
Fork-tailed Swift	25	29/01/03	Reedy Lake.	RMc
Laughing Kookaburra	1	30/01/03	Buckley falls Park. Also present 05/02/03 and 17/02/03.	BAt
	2	17/02/03	Gnarwarre.	BAt
Rainbow Bee-eater	Sev-	26/01/03	Bannockburn Bush. Several calling.	GMc
	3	15/02/03	Stonehaven, Barwon River.	AW, GMc,
Southern Emu-wren	5-6	5/01/03	Ocean Grove. On anabranch of the Barwon R. adjacent the golfcourse.	GT
	Sev-	13/01/03	Point Addis. A small party.	GMc
White-browed Scrubwren	1	29/01/03	Buckley Falls Park.	BAt
Speckled Warbler	2	13/02/03	Long Forest. One adult and one fledged young being fed.	MHe
Yellow-rumped Thornbill	20+/-	18/02/03	Belmont Common near KMart.	BAt
Red Wattlebird	4+	04/02/03	Highton. Feeding most of day on insects & bugs in variety of bushes and trees.	RBa
White-plumed Honeyeater	6+	15/01/03	Gateway Sanctuary, Leopold. A nest with at least 2 advanced nestlings.	RMc
Flame Robin	12+	07/01/03	You Yangs. Many birds in brown plumage.	BL
Crested Shrike-tit	1	27/01/03	Buckley Falls Park. Also present 17/02/03.	BAt
Rufous Whistler	2	31/01/03	Long Forest. An adult male feeding a fledged young.	MHe
	1	02/02/03	Brisbane Ranges, Anakie Gorge. A male bird.	JB
	1	19/02/03	Brisbane Ranges, DeMotts Road. Also present 13/02/03.	JB
Grey Shrike-thrush	1	26/01/03	Modewarre.	BAt
	1	01/02/03	Buckley Falls Park. Also present 04/02/03 and 17/02/03.	BAt
Satin Flycatcher	1	14/02/03	Bellbrae. A male bird calling from top of a tree.	AW
Leaden Flycatcher	1	23/01/03	Long Forest. Male bird. Different site than January birds.	MHe
Rufous Fantail	1	06/02/03	Otway Ranges. Aire River Campsite.	JB
Willie Wagtail	1	24/01/03	Highton.	RBa
	1	27/01/03	Buckley Falls Park.	BAt
Black-faced Cuckoo-shrike	2	09/02/03	Modewarre.	BAt
White-winged Triller	1	02/11/03	Belmont. Unusual in the suburbs.	AN, BGN
Olive-backed Oriole	1	19/12/02	Long Forest. Unusual in this location.	MHe
White-browed Woodswallow	2	26/01/03	Bannockburn. A new but empty nest.	GMc
Dusky Woodswallow	4	27/01/03	Buckley Falls Park. Two adults feeding two nestlings. Adults chasing other birds from nest area. Being fed on 01/02/03, chicks left nest with adults 04/02/03. Being fed by adults on 05/02/03. Only one chick on nest 08/02/03.	BAt
	6-8	31/01/03	Buckley Falls Park.	BAt
Grey Butcherbird	2	01/02/03	Queens Park.	BAt
Little Raven	1	January.	Belmont. Catching bees on eucalypt blossoms and then banging them on roof of shed before eating them.	DG, CGr
	2	05/02/03	Highton. A begging young being fed by an adult.	RBa
Eurasian Tree Sparrow	4	27/01/03	Newtown. Two juveniles at bird bath. Another juvenile being fed by an adult	CMo
Red-browed Finch	10-20	27/01/03	Buckley Falls Park. Many juveniles.	BAt
Diamond Firetail	4-6	07/01/03	You Yangs at Eastern Flats.	BL
European Goldfinch	5	31/01/03	Moriac. A cup shaped nest with three fledglings.	PW
	12	17/02/03	Highton. Feeding on nature strip.	VWD
Golden-headed Cisticola	8	18/02/03	Belmont Common near KMart.	BAt

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Use the driveway between the big hall and the playing field.

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